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ALMADALLAH
HEALTHCARE MANAGEMENT

Asthma Guidelines

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Introduction

Asthma: Asthma is a chronic respiratory condition that affects millions of individuals worldwide, impacting their ability to breathe freely and live active lives. As recognized by the American Lung Association, asthma is a complex and multifaceted condition with various triggers and manifestations.

- Asthma should be monitored and reviewed periodically
- The management of asthma is categorized into 3 categories:
1. Short term Reliever: mostly for controlling the attacks.
 2. Long term controller: Mostly for maintenance.
 3. status asthmaticus: a life-threatening condition (the worse attack of asthma).

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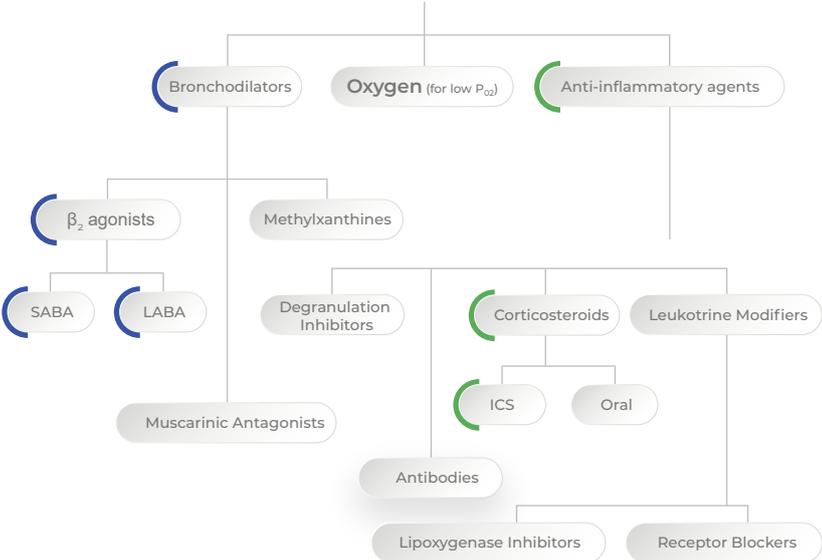
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Drugs Used in Asthma

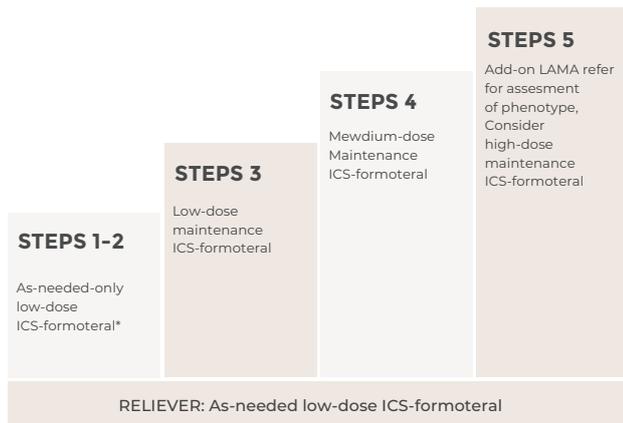


Asthma

Medication:

Track 1 (Preferred) : with as-needed low-dose ICS-formoterol as the reliever

Using ICS-formoterol as the reliever* reduces the risk of exacerbations compared with using a SABA reliever and is a simpler regimen.



Why Track 1 is preferred by GINA 2023:

- The safest and most effective approach to asthma treatment in adolescents and adults, which also avoids the consequences of starting treatment with SABA alone across all asthma severity levels.
- Reduces the risk of severe exacerbations, compared with using a SABA-only reliever.
- Budesonide-formoterol is included in the World Health Organization (WHO) essential medicines list.
- Simplicity of the approach for patients because the same medication is used for both symptom relief and maintenance treatment → Single inhaler as maintenance-and-reliever therapy (SMART).

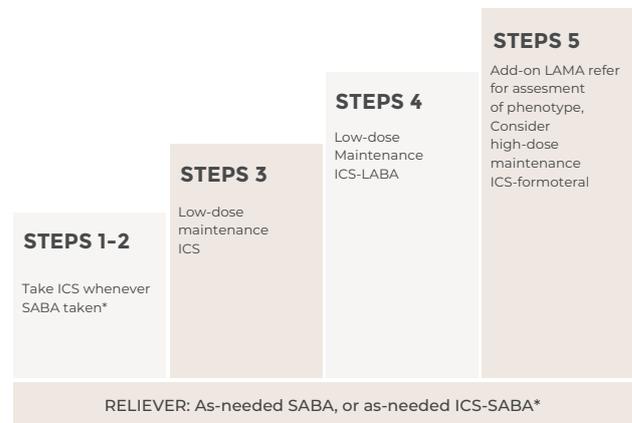
» In a meta-analysis, switching patients with uncontrolled asthma from Step 3 treatment to MART was associated with a 29% reduced risk of severe exacerbations compared with stepping up to Step 4 ICS-LABA maintenance plus, SABA reliever, and a 30% reduced risk compared with staying on the same treatment with SABA reliever.

Which ICS-formoterol to Choose?

- Budesonide/Formoterol Turbuhaler is well-studied across all asthma severities in adults and adolescents. The maximum dose per day is 12 puffs.
- Beclomethasone/Formoterol is studied in GINA Step 3 in Adults Only. The maximum dose per day is 8 puffs.
- Non-formoterol ICS-LABA combinations cannot be used for symptom relief or as MART.

Track 2 (Alternative) : with as-needed SABA or as-needed ICS/SABA as the reliever¹

Before considering a regimen with SABA reliever, check if the patient is likely to adhere to daily controller treatment



» Track 2 can be used when Track 1 is not available or if the patient is likely to be adherent with his current controller and has had no exacerbations in the last 12 months, as otherwise, the patient would be at higher risk of exacerbations.

» As-needed ICS-SABA (Budesonide - Albuterol 160/180 mcg) has been added as a reliever based on evidence from a randomized controlled MANDALA trial. The risk of severe asthma exacerbation was significantly lower, by 26%, in the combination group than in the albuterol-alone group with the greatest benefit seen in patients taking maintenance low-dose ICS-LABA or medium-dose ICS.

Asthma

Status asthmaticus management:

Status asthmaticus is respiratory failure that comes with the worst form of acute severe asthma, or an asthma attack. If an attack comes on quickly and it doesn't respond to regular treatment, it can lead to status asthmaticus. If it happens, you may have to go to the hospital to get it treated. If you have a bad asthma attack and your rescue inhaler or your nebulizer doesn't help, you need medical care right away.

This is an ER condition which requires immediate intubation and fluid replacement along with Oxygen therapy. Almost all cases are stabilized in the ER and forwarded for admission.

Medications examples:

- I. LABA (Long-Acting Beta-Agonists):
 1. Salmeterol (e.g., Serevent)
 2. Formoterol (e.g., Foradil)
 3. Indacaterol (e.g., Arcapta Neohaler)
 4. Olodaterol (e.g., Striverdi Respimat)
- II. LAMA (Long-Acting Muscarinic Antagonists):
 1. Tiotropium (e.g., Spiriva)
 2. Acclidinium (e.g., Tudorza Pressair)
 3. Umeclidinium (e.g., Incruse Ellipta)
 4. Glycopyrrolate (e.g., Lonhala Magnair)
- III. ICS (Inhaled Corticosteroids):
 1. Fluticasone (e.g., Flovent)
 2. Budesonide (e.g., Pulmicort)
 3. Beclomethasone (e.g., Qvar)

Laboratory monitoring:

No.	CPT	Description	Frequency	Comments
1	94010	Spirometry, including graphic record, total and timed vital capacity, expiratory flow rate measurement(s), with or without maximal voluntary ventilation	Once every 12 months	Only for patients on LABA as controller
2	94060	Bronchodilation responsiveness, spirometry as in 94010, pre- and post-bronchodilator administration	Once every 12 months	
3	94619	Exercise test for bronchospasm, including pre- and post-spirometry and pulse oximetry; without electrocardiographic recording(s)	Once every 12 months	
4	99241-99245	Consultation with the cardiologist	Once every 3 months	Only for patients on LABA as controller

Lab tests in case of an attack:

No.	CPT	Description	Frequency	Comments
1	85025	CBC	Every attack	to evaluate the type of inflammation
2	71045	Radiologic examination, chest; single view	If the CBC alerted inflammation post attack	Only one of them to be done
3	71046	Radiologic examination, chest, 2 views, frontal and lateral	If the CBC alerted inflammation post attack	
4	71047	Radiologic examination, chest; 3 views	If the CBC alerted inflammation post attack	

*Note: Renal function test and electrolyte panel are a common practice in asthma. Which is not medically justified at all, any related requests should be rejected.

Asthma

ICD codes

No.	ICD-10 Code	Description
J45	J45	Asthma
J45.0	J45.0	Predominantly allergic asthma
J45.1	J45.1	Nonallergic asthma
J45.2	J45.2	Mixed asthma
J45.9	J45.9	Asthma, unspecified
J45.20	J45.20	Mild intermittent asthma, uncomplicated
J45.21	J45.21	Mild intermittent asthma with (acute) exacerbation
J45.22	J45.22	Mild intermittent asthma with status asthmaticus
J45.30	J45.30	Mild persistent asthma, uncomplicated
J45.31	J45.31	Mild persistent asthma with (acute) exacerbation
J45.32	J45.32	Mild persistent asthma with status asthmaticus
J45.40	J45.40	Moderate persistent asthma, uncomplicated
J45.41	J45.41	Moderate persistent asthma with (acute) exacerbation
J45.42	J45.42	Moderate persistent asthma with status asthmaticus
J45.50	J45.50	Severe persistent asthma, uncomplicated
J45.51	J45.51	Severe persistent asthma with (acute) exacerbation
J45.52	J45.52	Severe persistent asthma with status asthmaticus
J45.901	J45.901	Unspecified asthma with (acute) exacerbation
J45.902	J45.902	Unspecified asthma with status asthmaticus
J45.909	J45.909	Unspecified asthma, uncomplicated
J45.991	J45.991	Cough variant asthma
J45.998	J45.998	Other asthma
J82.83	J82.83	Eosinophilic asthma
T48.6X1A	T48.6X1A	Poisoning by antiasthmatics, accidental (unintentional), initial encounter
T48.6X1D	T48.6X1D	Poisoning by antiasthmatics, accidental (unintentional), subsequent encounter
T48.6X1S	T48.6X1S	Poisoning by antiasthmatics, accidental (unintentional), sequela
T48.6X2A	T48.6X2A	Poisoning by antiasthmatics, intentional self-harm, initial encounter
T48.6X2D	T48.6X2D	Poisoning by antiasthmatics, intentional self-harm, subsequent encounter
T48.6X2S	T48.6X2S	Poisoning by antiasthmatics, intentional self-harm, sequela
T48.6X3A	T48.6X3A	Poisoning by antiasthmatics, assault, initial encounter
T48.6X3D	T48.6X3D	Poisoning by antiasthmatics, assault, subsequent encounter
T48.6X3S	T48.6X3S	Poisoning by antiasthmatics, assault, sequela
T48.6X4A	T48.6X4A	Poisoning by antiasthmatics, undetermined, initial encounter
T48.6X4D	T48.6X4D	Poisoning by antiasthmatics, undetermined, subsequent encounter
T48.6X4S	T48.6X4S	Poisoning by antiasthmatics, undetermined, sequela
T48.6X5A	T48.6X5A	Adverse effect of antiasthmatics, initial encounter
T48.6X5D	T48.6X5D	Adverse effect of antiasthmatics, subsequent encounter
T48.6X5S	T48.6X5S	Adverse effect of antiasthmatics, sequela
T48.6X6A	T48.6X6A	Underdosing of antiasthmatics, initial encounter
T48.6X6D	T48.6X6D	Underdosing of antiasthmatics, subsequent encounter
T48.6X6S	T48.6X6S	Underdosing of antiasthmatics, sequela
Z82.5	Z82.5	Family history of asthma and other chronic lower respiratory diseases

Asthma

Reference:

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https://www.isahd.ae/content/docs/Ejada%20KPIs%20and%20Recommendations_Asthma_2023.pdf.
2. Lippincott Modern Pharmacology With Clinical Applications.
3. Canadian Thoracic Society Guideline – A focused update on the management of very mild and mild asthma
https://cts-sct.ca/wp-content/uploads/2021/02/FINAL-CTS_Very-Mild-and-Mild-Asthma-CPG.pdf.
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<https://emedicine.medscape.com/article/2129484-treatment?form=fpf>.